

Smart health care delivery through advancing health information technology

(Code: 47e7e)

Goal:

Today's health care is transforming, as the advancement and implementation of health information technology allow health care systems to operate in a data-rich environment. Historical data help redesign the process of health care delivery, while real-time data supports decision-making in health care operations. It potentially increases flexibility of health care delivery to meet patient needs in a timely manner and ensure patient life quality. Enabled by health information technology, patient safety, patient experience, provider satisfaction, care quality and system efficiency could be enhanced. However, there exists a gap in the paradigm shift from big data to smart health care delivery. The adoption of new medical devices generates a large amount of heterogeneous data that may not be well integrated and fully utilized. It provides both opportunities and challenges for automation science and engineering to study scientific and engineering solutions for health information technology. The goal of the special session is to present research that focuses on cutting-edge health information technology, real-life automation problems in using health information technology, and approaches to a better health care delivery with regards to different dimensions of performance measures.

Topics:

- Artificial intelligence in monitoring and alarming system in health care
- Health informatics
- Digital twin for health care systems
- Optimization in health care operations
- Stochastic modeling and control in health care
- Data-driven medical decision making
- Applications of robotics, sensors, and wearable devices in health care
- Health information technology integration

Contact the lead organizer:

Feifan Wang, Assistant Professor
Mayo Clinic, USA
E-mail: wang.feifan@mayo.edu